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Supplementary summary report 1977 Pasture species investigations - Wheatbelt.

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SUPPLEMENTARY SUMMARY REPORT, 1977

Pasture Species Investigations

Wheat Belt

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Seed Yields of Early Maturing Subterranean Clovers

A brief description of weather conditions in 1977, site details and results of germination counts and growth ratings were included in the Summary Report for 1977.

1. Drill-Sown Trials

Seed yields from the trials varied from good in the southern wheat-belt to very poor in the northern areas. Test samples were taken from trials 77GE32, 77GE40 and 77GE41 in the Pindar and Tardun districts, 77ME22 at Koorda and 77TS25 at Perenjori but the quantity of seed did not warrant yield assessment. Trial 77M022 at Gabalong was not sampled.

Seed yields from the rest of the trials sown in 1977 are shown below.

Strains	Seed (kg/ha)						
	Moora		Northam	Merredin		Narrogin	Lake Grace
	77M015	77M021	77M024	77ME21	77ME23	77NA29	77LG21
Mungarin	1.5	1.9	14.3	55.7	65.3	226	240
239	2.0	4.8	8.3	94.8	103.7	204	118
584	0.8	0.4	14.6	35.1	59.4	217	242
Northam	2.3	1.1	9.5	72.1	27.5	140	52
Geraldton	1.6	0.3	10.4	61.5	35.3	243	135

From these results, weather conditions in 1977 were apparently even less conducive to seed production by Northam than by most other strains. The low yields on 77ME23 (South Yilgarn), 77NA29 (Hyden) and 77LG21 (Lake King) were particularly disappointing. There was considerable variation between sites but on average the three new varieties were comparable, and better than Northam or Geraldton.

Seed yields from trials sown in 1976 are probably more interesting because they indicate performance in the second year, and except for 76ME6, under heavy grazing.

Strains	Seed (kg/ha)				
	Perenjori 76TS10	Noongar 76ME6	Bencubbin 76ME5	Karlgarin 76NA6	Lk. King 76LG5
Mungarin	13.6	17.1	6.9	121.2	522
239	6.4	21.3	2.7	143.3	646
584	7.3	24.1	1.2	161.5	425
Northam	4.2	12.9	1.4	65.9	408
Geraldton	5.2	17.3	0.7	90.1	362

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The relationship of yields between varieties in these grazed trials appears to be much the same as for the trials sown in 1977. Northam is still low compared with the new crossbreds but was a little better than in the 1977 trials.

2. Small-Plot Trials

75LG21 and 76LG23, Lake King

These trials were sown adjacent to one another on lateritic sandplain at Lake King. 76LG23 was sown to duplicate 75LG21 because of the low viability of seed of some strains sown in the earlier trial.

Seed Yields, 1976 and 1977

Strains	Seed (kg/ha)			
	75LG21		76LG23	
	1976	1977	1976	1977
584.1B	927	643	312	609
Dwalganup	896	509	435	324
239.2	759	640	293	349
301.1.3B	736	555	418	546
74B	732	604	329	366
29B	693	522	275	363
Mungarin	634	392	339	378
Geraldton	626	499	332	483
Northam	608	560	392	606
503.1B	638	516	262	402
492.1.3	594	498	292	286
547.1.3	567	550	318	264
92B	443	430	282	413
337.1.3	Not sown		306	486
Means	681	532	331	420

These trials were not grazed. From 1976 to 1977 mean yields of seed from 75LG21 dropped by about 22 per cent and those from 76LG23 rose by about 27 per cent. These trends are consistent with a seed increase from a first to a second year sward and a deterioration from second to third year, partly caused by annual seed sampling. A comparison of results from these two trials with those from the drill-sown trials at Karlgarin and Lake Grace discourages hasty claims of superiority for a particular strain. 584.1B gave the best seed yields in these trials and was very good in the larger trials. Northam yields, low in the drilled trials, were good on 75LG21 in 1976 and better, relative to other strains, in 1977. On 76LG23 Northam seed yields increased from good in 1976 to remarkable in 1977. On the other hand, Mungarin, with consistently better seed yields in the drill-sown trials, dropped more than average (38%) from 1976 to 1977 on 75LG21, and on 76LG23 dropped by three per cent when the average rise was 27 per cent. However, the results from the drilled trials

should be the more reliable of the two, particularly in the long term.

Newdegate Research Station

The strains of clover sown at Newdegate included those known to have characteristics which might fit them to replace Dwalganup (76N16, 77N22), and those which had undergone less testing (76N17, 77N24).

The trials were planted in 1976 on lateritic sandplain with massive laterite rising close to the surface in some places. Obvious areas of shallow soil were avoided, but strains which were planted in doubtful positions were planted again in 1977 on adjacent deeper soil. Seed yields from the original trials and their supplements are presented below:

Seed Yields, 1976 and 1977

Strains	Seed (kg/ha)		
	76N16		77N22
	1976	1977	1977
Geraldton	197	462	520
Daliak	191	430	-
Dwalganup	124	385	513
239.2	216	359	274
Northam	83	336	323
Nungarin	161	331	-
Mt. Helena A	105	321	377
584.1B	171	310	-
19834	97	292	349
Northam C	121	283	-
Shenton Park A	82	281	-
Dalkeith	149	264	-
337.1.3	169	245	-
Bellevue	182	242	-
Seaton Park	108	237	-

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Seed Yields, 1976 and 1977

	Seed (kg/ha)		
	76N17		77N24
	1976	1977	1977
Geraldton	240	832	-
CPI 19447	155	497	-
Spencers Brook	241	487	365
CPI 19834	159	451	-
Collie A	166	383	-
Toodyay B	89	360	310
Canberra 428	131	317	-
Collie B	100	303	-
Northam F	79	293	103
Darlington	50	274	124
Boyup A	109	258	-
Morocco 65328 A	147	256	-
Baulkamaugh	68	251	30
Williams C	65	244	300
Pinjarra A	50	228	70
Lake Widgeon	174	217	65
Lake Claremont	112	212	157
CPI 47275	98	209	97
Morocco 65328 E	18	181	106
CPI 14750	66	174	46
CPI 19451	51	159	87
Morocco 65320	55	147	65
Morocco 65318 A	20	142	157
CPI 28096	32	120	36
CPI 12396 B	101	107	43
28095	39	94	71
18358 A	2.5	93	-
Dwalgunup	10	78	62
Morocco 65327 E	15	41	63
Morocco 65324 A	22	19	59

Conclusions

These trials support the opinion that Daliak, Nungarin and Northam are suitable replacements for Dwalganup in the southern wheatbelt. In 76N16 and elsewhere, Daliak has shown its ability to equal or outyield Dwalganup in the wetter section of this zone and Nungarin promises well for the drier margins. Results from Northam have been more variable, but the cultivar produces an attractive pasture and its capacity to recover from relatively low seed yields has been demonstrated in these and earlier trials.

The scanty results from two dry seasons generally confirm the expected superiority of Nungarin over Geraldton in the northern and eastern wheatbelts. It is hoped that with time and better seasons more convincing proof will be available.